

Routine Subtyping of *Salmonella* Serotype Typhimurium by PFGE Facilitates Focused Epidemiological Investigations in Connecticut.

Fiorentino T, Howard R, Kinney A, Marcus R, Mshar P, Marano N, Westerman J, Reddy S, Angulo F

Background: *Salmonella* Typhimurium (S.Typhimurium) causes 25% of human *Salmonella* infections in the United States. Because S.Typhimurium is such a common serotype, public health surveillance of S.Typhimurium would be enhanced by routine molecular subtyping of S.Typhimurium isolates in state public health laboratories. Phage typing has been used for subtyping S.Typhimurium but is conducted only at CDC. Pulsed-field gel electrophoresis (PFGE) is commonly used for subtyping in outbreak investigations, but its routine application has not been fully evaluated.

Methods: Clinical laboratories in Connecticut forwarded human *Salmonella* isolates to the State Laboratory for serotyping. In 1998, subtyping by PFGE was routinely performed on all S.Typhimurium isolates. Selected isolates were sent to CDC for antimicrobial susceptibility and phage typing.

Results: In 1998, 139 (28%) of 502 *Salmonella* isolates were S.Typhimurium; 4.3 per 100,000 population. Although 56 PFGE patterns were identified among the 139 S.Typhimurium isolates, 40 (29%) of the isolates had an identical pattern. Seven of the 40 isolates were selected for further testing; all were resistant to ampicillin, chloramphenicol, streptomycin, sulfonamides and tetracycline (R-type ACSSuT), and 5 (71%) were phage typed as members of the DT104 complex.

Conclusion: Routine use of PFGE led to the recognition of a S.Typhimurium strain, DT104 (R-type ACSSuT), that accounts for 29% of all Connecticut isolates. Investigations are ongoing to determine possible sources of these infections. PFGE appears to be a useful tool for S.Typhimurium subtyping at state health departments to prospectively identify clusters and facilitate focused epidemiologic investigations.

Suggested citation:

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